What is claimed is:

Sub a2 1. An optical device comprising:

a plurality of separate optical paths, each of which receiving one or more separate optical signals;

a plurality of optical power monitors, each of which being configured to sense a respective total signal power on an associated one of said separate optical paths; and

a plurality of idler lasers, each of which being configured to provide a compensating wavelength for injection into an associated one of said optical signal paths in response to an associated total signal power sensed by an associated one of said optical power monitors.

2. An optical device according to claim 1, wherein each said compensating wavelength is provided for maintaining a substantially constant optical signal power on said associated one of said optical signal paths.

3. An optical device according to claim 1, wherein said device further comprises a demultiplexer having a plurality of outputs, each of said separate optical paths being coupled to an associated one of said outputs for receiving said one or more separate optical signals.

4. An optical device according to claim 1, wherein said device further comprises a multiplexer having a plurality of inputs, each of a plurality of said optical paths being coupled to an associated one of said optical inputs, said multiplexer providing an output comprising said one or more separate optical signals on each of said plurality of optical paths.

5. An optical device according to claim 1, wherein said device further comprises a plurality of data modulators, each of which being configured to modulate data on an associated one of said compensating wavelengths.

6. An optical device according to claim 1, wherein said device further comprises a plurality of detectors, each of which being coupled to an associated one of said optical power monitors for generating a respective fault alarm in response to an associated total signal power sensed by said associated one of said optical power monitors.

7. An optical device comprising:

a demultiplexer having a plurality of outputs,

a plurality of separate optical paths, each of which being coupled to a respective one of said plurality of outputs for receiving one or more separate optical signals;

a plurality of optical power monitors, each of which being configured to sense a respective total signal power on an associated one of said separate optical paths;

a plurality of idler lasers, each of which being configured to provide a compensating wavelength for injection into an associated one of said optical paths in response to an associated total signal power sensed by an associated one of said optical power monitors, said compensating wavelength for maintaining a substantially constant optical signal power on said associated one of said optical signal paths; and

a multiplexer having a plurality of inputs, each of a plurality of said optical paths being coupled to an associated one of said optical inputs, said multiplexer providing an output comprising said one or more separate optical signals on each of said plurality of optical paths.

8. An optical device according to claim 1, wherein said device further comprises a plurality of data modulators, each of which being configured to modulate data on an associated one of said compensating wavelengths.

9. An optical device according to claim 1, wherein said device further comprises a plurality of detectors, each of which being coupled to an associated one of said optical power monitors for generating a respective fault alarm in response to an associated total signal power sensed by said associated one of said optical power monitors.

10. A method of controlling optical power transients in an optical communication network including an aggregate optical signal comprising a plurality of separate optical signals,

said method comprising the steps of:

providing a plurality of separate optical signal paths, each of said signal paths carrying at least one of said separate optical signals;

detecting a power level associated with said at least one of said separate optical signals on each of said separate optical signal paths; and

injecting a separate compensating wavelength into each of said optical signal paths in response to an associated power level detected thereon in said detecting step.

11. A method of controlling optical power transients in an optical communication network including an aggregate signal comprising a plurality of separate signals, said method comprising the steps of:

separating said aggregate signal onto a plurality of separate signal paths, each of said signal paths carrying a separate group of said separate signals;

detecting a power level associated with a plurality of said separate groups of separate signals on associated separate optical signal paths;

injecting a separate compensating wavelength into each of said associated optical signal paths in response to an associated power level detected thereon in said detecting step; and

combining each of said plurality of said separate groups of optical signals on an aggregate optical signal path.